

## WHAT IS CLAIMED IS:

~~CLAIMS~~

- Sub A2
1. Diagnostic and/or dosage method of an agonist and/or an antagonist or any modulator for a calcium-coupled receptor or a calcium-coupled channel or any other calcium-coupled protein, comprising the following successive steps:
- disposing the agonist and/or the antagonist upon a solid support,
  - incubating one or more cell(s) expressing apoaeguorin or any other related protein and said calcium-coupled receptor with coelenterazine or any other cofactor of a calcium-sensitive protein in order to reconstitute an active aeguorin by said cell(s),
  - adding to said solid support one or more of said cells, and
  - obtaining the measurement of an emitted light by said cell(s).
2. Method according to claim 1, wherein the solid support is a microtiter plate.
3. Method according to claim 2, characterised in that the microtiter plate is a 96-well microtiter plate, or a 384-well plate, or a 1536-well-plate or any other format.
4. Method according to any one of the preceding claims, characterised in that the cell expresses apoaeguorin in the cytoplasm or in the mitochondria or in any other part of the cell.
5. Method according to any one of the preceding claims, wherein the cell expressing a calcium-coupled receptor is a cell expressing an endogenous or recombinant G-protein-coupled receptor and/or a cell which expresses proteins intended to ensure a coupling of the

analysed receptor (endogenous or overexpressed) to the calcium pathway.

Sub A2 } 5 6. Method according to claim 5, wherein said protein is selected from the group consisting of natural Gα16 or Gα15 protein, chimeric G-protein resulting from a fusion between two different G-proteins or phospholipase Cβ2 protein or any other coupling protein or chemical.

10 7. Method according to any one of the preceding claims, characterised in that the measurement of the emitted light is obtained with one or more luminometer(s), advantageously equipped with several dispensers and measurement heads.

15 8. High-throughput screening diagnostic and/or dosage device intended for the high-throughput screening diagnostic and/or dosage method according to any one of the preceding claims, comprising the following elements:

- a microtiter plate, preferably a 96-well microtiter plate,
- 20 - a medium containing cell(s) expressing apoaeguorin and a calcium-coupled receptor,
- a medium containing coelenterazine, and
- means for detecting an emitted light by said cell(s).

25 9. Device according to claim 8, comprising means for the automatic performance of the successive steps of the diagnostic and/or dosage method according to any one of the claims 1 to 7.

30 10. Agonist or antagonist of a receptor identified by the method according to any one of the claims 1 to 8.

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